

## Section 1

**MANAGEMENT OF CHANGE (MOC)**

MOC No: 22097	Originator: Bleckinger, Megan R.	Date Issued: 6/8/2010	Passport No:	EWO No:	ABU: RLOP	Plant: Gas Recovery Plant 19	Year: 2010
Section 2 Reviewer: Seidlitz, Michael R.	MOC Category: Routine	PSM: Incident Investigation	MOC Type: Permanent	Expiration Date:	Other Temporary Reason		
Project/Equipment Title: Add V-1931 Free NAOH to COD Table							
Description of Change: LI 1813206  Add V-1931 Free NAOH to COD Table. The new low limit will be 5.6 wt%. Please note the change in engineering units. This is also an increase in the lower limit per the Amine Treater SME recommendation from 0.3 lb/gal to 0.5 lb/gal (5.6 wt%).							

## MOC will be required if the change will:

- ☐ Cause the use of different feed, chemicals or catalysts?  
☒ Cause the use of different process conditions, process control, instrumentation, and protective devices or affect upstream/downstream plants?  
☐ Cause the use of new or modified equipment [which is other than in-kind]?  
☐ Alter equipment siting, building, trailer locations, roads or fire protection?  
☐ Require modifying existing and/or developing new procedures?

☒ Simultaneously Begin Construction and Start-up

## Section 2

Stage 1	Pre-Implementation	Dept./Person Responsible	Date Complete	Completed By	References
	Design Review				
	Process Engineering Review	Bleckinger, Megan R.	6/8/2010	Bleckinger, Megan R.	
	Instrumentation Review				
	Control System Review				
	Utilities Review				
	Environmental/Regulatory Review	Tarter, Donald J.	7/1/2010	Tarter, Donald J.	
	Safety/Regulatory Review				
	Building Permits Review	Linares, Elena E.	6/17/2010	Linares, Elena E.	
	Mechanical Review				
	Inspection Review				
	Metallurgy Review				
	Construction Review				
	Leak Seal Review				
	Relief System Review				
	Infrastructure Review				
	PHA/HSE Review	Bleckinger, Megan R.	6/9/2010	Bleckinger, Megan R.	

Authorization to Implement Change (Begin Construction): Approver: Seidlitz, Michael R. Date: 7/9/2010

Stage 2	Pre-Startup	Dept./Person Responsible	Date Complete	Completed By	References
	Procedures Review	Henrickson, Alan C.	7/19/2010	Henrickson, Alan C.	
	Communication/Training 1	Henrickson, Alan C.	7/21/2010	Henrickson, Alan C.	
	Pre Start-up Safety Review	Henrickson, Alan C.	7/21/2010	Henrickson, Alan C.	

Authorization to Start-Up Change: Approver: Seidlitz, Michael R. Date: 7/21/2010

Extension of Temporary Change Approved By:	Approver:	Expiration Date:	Extension Reason
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Stage 3	Post-Startup	Dept./Person Responsible	Date Complete	Completed By	References
	Communication/Training				
	Process Safety Information	McCall, Patrick D.	7/27/2010	McCall, Patrick D.	

Change in Place - Reviews, Documentation & Testing Complete	Approver: Seidlitz, Michael R.	Date: 8/4/2010
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MOC Cancelled:	Approver:	Date:
	Cancellation Reason:	

Note 1: Emergency request for change should be routed by the Approver on the next working day	Retain Original in Division for five Years
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## PROCESS ENGINEERING REVIEW CHECKLIST

You have been assigned a Process Engineering Review.  
This checklist is a guide to help ensure that all information  
necessary to evaluate the change is considered.

MOC Number 22097

Filing Reference

Person Responsible Bleckinger, Megan R.

Completed By Bleckinger, Megan R.

Date Completed 6/8/2010

### Project/Equipment Title:

Add V-1931 Free NaOH to COD Table

### DOCUMENTATION

- ☐ Drafting Work Requisition, MFG-5545
- ☐ Maximum Intended Inventory Update
- ☐ MSDS's
- ☐ PED Records
- ☐ Relief System Drawings

### PROCESSES REVIEW

- |  |  |
|--|--|
| <input type="checkbox"/> ASTM-TBP-EFV Distillation Relationships     | <input type="checkbox"/> Suppliers' Performance        |
| <input type="checkbox"/> BIN Best Practice                           | <input type="checkbox"/> Surface Tensions              |
| <input type="checkbox"/> Characterization of Petroleum Fractions     | <input type="checkbox"/> Thermal Properties            |
| <input type="checkbox"/> Composition & Flow Information              | <input type="checkbox"/> Upstream & Downstream Impacts |
| <input type="checkbox"/> Conversion Factor & Constants               | <input type="checkbox"/> Vapor-Liquid Equilibria       |
| <input checked="" type="checkbox"/> Delivery Needs                   | <input type="checkbox"/> Vapor Pressures               |
| <input type="checkbox"/> Densities                                   | <input type="checkbox"/> Viscosities                   |
| <input type="checkbox"/> Fundamental Properties                      |  |
| <input type="checkbox"/> Honeywell                                   |  |
| <input type="checkbox"/> Honeywell Process Simulator                 |  |
| <input type="checkbox"/> Material & Energy Balance                   |  |
| <input type="checkbox"/> New Catalyst of Feeds                       |  |
| <input checked="" type="checkbox"/> Operating Parameters             |  |
| <input type="checkbox"/> Physical Properties of Streams or Catalysts |  |
| <input type="checkbox"/> Solubilities                                |  |

### SUMMARY OF REVIEW\*

The new low limit for Free NaOH in V-1931 is 5.6 wt%. Please refer to attached email from amine treater SME.

No high limit is needed

\*When possible include copies of documents referenced in the summary.

Tuesday, January 29, 2013

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## ENVIRONMENTAL REGULATORY REVIEW CHECKLIST

You have been assigned a Regulatory Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

### Project/Equipment Title:

Add V-1931 Free NAOH to COD Table

MOC Number: 22097

Filing Reference:

Person Responsible: Tarter, Donald J.

Completed By: Tarter, Donald J.

Date Completed: 7/1/2010

### CHEVRON:

☐ Yellow Book

### REGULATORY:

- ☐ Army Corp Permit
- ☐ BAAQMD Air Regulations & Permits (including TitleV)
- ☐ Bay Conservation & Development Commission (BCDC)
- ☐ CEQA (EIR's, etc.)
- ☐ City of Richmond Conditional Use Permits (Land use and Hazardous Materials)
- ☐ City of Richmond Design Review Board
- ☐ Permit to Build and Remove Wells, County Permit Required
- ☐ Department of Transportation (DOT)
- ☐ EPA Benzene Neshap
- ☐ EPA Benzene Waste (BW) NESHAP
- ☐ EPA MACT Requirements
- ☐ EPA New Source Performance Standards (NSPS)
- ☐ Regulation 8 Organic Compounds Rule 8 Wastewater Collection and Separation Systems
- ☐ Risk Management & Prevention Plan (RMPP)
- ☐ RWQCB Waste Discharge Orders, EPA Consent Agreement Sites
- ☐ RWQCB NPDES Regulations & Permits
- ☐ RWQCB SB-1050, Waste Discharge Requirements (WDR)
- ☐ Spill Prevention & Counter Measure Plan (SPCC)
- ☐ Waste Regulations and Permits
- ☐ Wharf-related agencies (SLC, USCG, OSPR, EPA)
- ☐ ☒ Additions, modifications, or deletions of VOC Component/Equip

### SUMMARY OF REVIEW\*

No environmental regulatory issues.

Tuesday, January 29, 2013

\*When possible include copies of documents referenced in the summary.

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## BUILDING PERMITS REVIEW CHECKLIST

You have been assigned a Regulatory Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

### Project/Equipment Title:

Add V-1931 Free NAOH to COD Table

MOC Number 22097

Filing Reference

Person Responsible Linares, Elena E.

Completed By Linares, Elena E.

Date Completed 6/17/2010

### SUMMARY OF REVIEW\*

MOC signed off. A City of Richmond building permit is not required based on the information provided in the scope of work, but is required for any new construction such as: electrical, instrumentation, pipe supports, structural modifications, and etc.

\*When possible include copies of documents referenced in the summary.

## INSPECTION REVIEW CHECKLIST

You have been assigned a Inspection Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

**MOC Number:** 22097

**Completed On:** 6/9/2010

**Completed By:** Bosworth, Gregory A.

**Person Responsible:** Bosworth, Gregory A.

### Project/Equipment Description:

LI 1813206

Add V-1931 Free NAOH to COD Table. The new low limit will be 5.6 wt%. Please note the change in engineering units. This is also an increase in the lower limit per the Amine Treater SME recommendation from 0.3 lb/gal to 0.5 lb/gal (5.6 wt%).

Yes	No	Plant Protection/Security Review
<input type="checkbox"/>	<input checked="" type="checkbox"/>	City Fire-Plan Review is Mandato
<input type="checkbox"/>	<input checked="" type="checkbox"/>	City Fire-Permit is Mandato
<input type="checkbox"/>	<input checked="" type="checkbox"/>	City Acceptance Test is Mandato
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Office of Fire Prevention Review On

The scope of work has been reviewed by the Chevron Fire Marshal. Scope of work does not constitute a change in fire protection.

## HEALTH & SAFETY EVALUATION

Date Issued: 6/8/2010

Maximo Number: \_\_\_\_\_

MOC Number 22097

ABU: RLOP

EWO Number \_\_\_\_\_

Filing Reference \_\_\_\_\_

Plant: Gas Recovery Plant 19

Person Responsible Bleckinger, Megan R.

Section 2 Reviewer: Seidlitz, Michael R.

Completed By Bleckinger, Megan R.

Project/Equipment Title: Add V-1931 Free NAOH to COD Table

Date Completed 6/9/2010

Description: LI 1813206

Add V-1931 Free NAOH to COD Table. The new low limit will be 5.6 wt%. Please note the change in engineering units. This is also an increase in the lower

Step 1: ☐ Notify USW ☐ USW Representation Present USW Representative: \_\_\_\_\_

Worker's Committee Member/Steward's comments if unable to attend:

☐ Notify Trainer ☐ Trainer Representation Present Training Representative: John Barthel

Step 2: Involve: Operations, Maintenance, Technical and others with appropriate expertise relevant to the change (CRTC, Contractors, etc)

Attendees: M. Bleckinger, G. Carter, L. Harris, M. Demcsak, S. Brown, G. Zakrewski

Step 3: Think about the task at hand. Discuss the existing situation. Discuss the change. Discuss the impact of the change on the existing situation. Determine the training requirements for this change.

Step 4:

Training Type: 1

Develop a list of concerns, consider your options, consider your following:

\*H2S \*NH3 \*Acid \*Caustic \*Benzene \*Fall Protection \*Staging \*Scott Air \*PPE \*Hot Work \*Confined Space Entry \*Evacuation Plan \*Safety Operator

Concern

Consequence

Mitigation

Proceed  
Safely

HSE Action Items

Additional Comments

Discussed higher lower limit will cause a higher dump and charge frequency for V-1931. Operations asked for a higher strength caustic but this would require a metallurgical review and a MOC.

## PROCEDURE REVIEW CHECKLIST

You have been assigned a Procedure Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

MOC Number 22097

Filing Reference

Person Responsible Henrickson, Alan C.

Completed By Henrickson, Alan C.

Date Completed 7/19/2010

### Project/Equipment Description:

LI 1813206

Add V-1931 Free NAOH to COD Table. The new low limit will be 5.6 wt%. Please note the change in engineering units. This is also an increase in the lower limit per the Amine Treater SME recommendation from 0.3 lb/gal to 0.5 lb/gal (5.6 wt%).

- ☐ Alarm Procedures
- ☐ Any Special or unique hazards
- ☐ COD/Ops Monitor
- ☐ Consequences of deviation
- ☐ Control measure to be taken if physical contact or airborne exposure occurs.
- ☐ Precautions necessary to prevent exposure, including administrative controls, engineering controls, and personnel protective equipment.
- ☐ properties of, and hazards presented by, the chemicals and operation of the process.
- ☐ References to additional procedures, such as Safe Work Practices
- ☐ Routine Duties
- ☐ Safety system and their functions
- ☐ Steps required to correct and/or avoid deviation

#### Steps fo each operatong Phase

- ☐ Emergency
- ☒ Normal
- ☐ Start-Up/Shutdown
- ☐ Temporary

### SUMMARY OF REVIEW\*

Added new low limit information to VOL.1, Chapter 5, Page 22

\*When possible include copies of documents referenced in the summary.

Tuesday, January 29, 2013

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# Stage Two Training and Communication Review

1/29/2013 10:07:11 AM

- ☒ Identify the affected employees.
- \* Maintenance and Technical affected?
  - \* Employee who will require training to start up the change based on the level of training.
  - \* Employees who will receive training after the start up BUT before they can perform work affected by the change
- ☐ Procedures have been modified/written (Ops/SSO/Trainer)
- ☐ Identify the affected employees..
- \* Lesson plan cover sheet (includes training objective statement and list of affected employees)
  - \* Procedural changes (Standing Orders, mark-ups)
  - \* Flow daigrams (final or mark-ups)
- ☒ Determine level of training
- ☐ Training has been scheduled
- ☒ Affected employees have been trained in order to start up the change.

MOC No: 22097

Date Completed: 7/21/2010

Completed By: Henrickson, Alan C.

Person Responsible: Henrickson, Alan C.

## Project/Equipment Title:

Add V-1931 Free NAOH to COD Table

## Summary of Review:

Low Limit changes have been made to EOM COD table and Vol. I Chapter 5. Sample results will now be available in Finisher Tools on the GRU and 18 plant spec. sheet page.

## APPENDIX III

### PRE-START-UP SAFETY REVIEW CHECKLIST

You have been assigned a Pre Start-Up Safety Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Passport No: \_\_\_\_\_  
EWO No.: \_\_\_\_\_  
MOC PSSR.: 22097.001

MOC Number 22097  
Filing Reference \_\_\_\_\_  
Person Responsible Henrickson, Alan C.  
Completed By Henrickson, Alan C.  
Date Completed 7/21/2010

#### Project/Equipment Description:

Add V-1931 Free NAOH to COD Table

#### Subsystem:

**NOT** The PSSR facilitator shall involve employees with expertise in process operations, maintenance, and engineering, based upon their experience and understanding of the process system being evaluated.

#### **The following requirements for PSSR shall be addressed:**

1. Has the equipment and construction been completed in accordance with the critical design specifications?

Some examples of how this may be accomplished are:

- \* Review of equipment quality assurance and inspection records.
- \* Review of construction inspection records.
- \* P & ID "check" after mechanical completion, and facility "walk-through" inspection.

**Justification:** n/a

**Approved by:** Henrickson, Alan C. **Date:** 7/21/2010

2. Are Safety, operating, maintenance, and emergency procedures in place and adequate?

- \* The phrase "in place and adequate" means: written, reviewed, approved, and accessible to employees requiring the procedures in their work.
- \* This does not prevent the use of "mark-up" procedures to satisfy the requirement, but these must undergo the same review and approval and training interaction as would "the final version" of the same procedure and would require rigorous control.

**Justification:** n/a

Henrickson, Alan C. 7/21/2010

3. Has the communication or training of affected operating, maintenance, or contract workers been completed?

- \* Maintenance employees, contractors, and other employees whose work is affected by the change must be informed of the change and training in the impact on their job tasks before the changed equipment is started up.

**Justification:** yes, training Via "E-mail" notification

Henrickson, Alan C. 7/21/2010

4. Have the quality assurance goals of mechanical integrity been met?

- \* Ensure that changes are suitable for the intended service.
- \* Ensure that the quality of the work is acceptable.
- \* Ensure that the quality of the Leak Seal is acceptable.

**Justification:** yes, new limits established to assure propane H2S spec.

Henrickson, Alan C. 7/21/2010

5. Have all recommendations resulting from PHA's or HSE's been addressed or resolved?

- \* Ensure all Recommendations have been documented as addressed or resolved

Henrickson, Alan C. 7/21/2010

## APPENDIX III

### PRE-START-UP SAFETY REVIEW CHECKLIST

You have been assigned a Pre Start-Up Safety Review. This checklist is a guide to help ensure that all information necessary to evaluate the change is considered.

Passport No: \_\_\_\_\_  
EWO No.: \_\_\_\_\_  
MOC PSSR.: 22097.001

MOC Number 22097  
Filing Reference \_\_\_\_\_  
Person Responsible Henrickson, Alan C.  
Completed By Henrickson, Alan C.  
Date Completed 7/21/2010

#### Project/Equipment Description:

Add V-1931 Free NAOH to COD Table

#### Subsystem:

Justification: yes

Are there any safety-related exceptions encountered during the PSSR that require follow-up after started up? ☐ Yes

#### Miscellaneous Comments:

none

<i>Exception</i>	<i>Owner</i>	<i>Completed By</i>	<i>Completed On</i>	<i>Notified</i>
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## HEALTH & SAFETY EVALUATION EXTENSION

Date Issued: 6/8/2010 Maximo No: MOC Number 22097  
ABU: RLOP EWO No: Filing Reference  
Plant: Gas Recovery Plant 19 Person Responsible Bleckinger, Megan R.  
Section 2 Reviewer: Seidlitz, Michael R. Completed By Bleckinger, Megan R.  
Project/Equipment Title: Add V-1931 Free NAOH to COD Table Date Completed 6/9/2010

Description: LI 1813206

Add V-1931 Free NAOH to COD Table. The new low limit will be 5.6 wt%. Please note the change in engineering units. This is also an increase in the lower

Step 1: ☐ Notify USW ☐ USW Representation Present USW Representative:

Worker's Committee Member/Steward's comments if unable to attend:

☐ Notify Trainer ☐ Trainer Representation Present Training Representative:

Step 2: Involve: Operations, Maintenance, Technical and others with appropriate expertise relevant to the change (CRTC, Contractors, etc)

Attendees:

Step 3: Think about the task at hand. Discuss the existing situation. Discuss the change. Discuss the impact of the change on the existing situation. Determine the training requirements for this change.

Step 4:

Training Type: 1

Develop a list of concerns, consider your options, consider your following:

\*H2S \*NH3 \*Acid \*Caustic \*Benzene \*Fall Protection \*Staging \*Scott Air \*PPE \*Hot Work \*Confined Space Entry \*Evacuation Plan \*Safety Operator

Concern

Consequence

Mitigation

Proceed  
Safely

HSE EXTENSION Action Item

Additional Comments

## PSI REVIEW CHECKLIST

MOC Number 22097  
Filing Reference  
Person Responsible McCall, Patrick D.  
Completed By McCall, Patrick D.  
Date Completed 7/27/2010

### Project/Equipment Title:

Add V-1931 Free NAOH to COD Table

### PSI Documents

Typ	Numbe	Owne	Markup Date	Final Date		Document UR	
E-Mail					Brows	\\ric841vmg3web1\psidocs\$\2	Open

### SUMMARY OF REVIEW\*

No PSI.

\*When possible include copies of documents referenced in the summary.